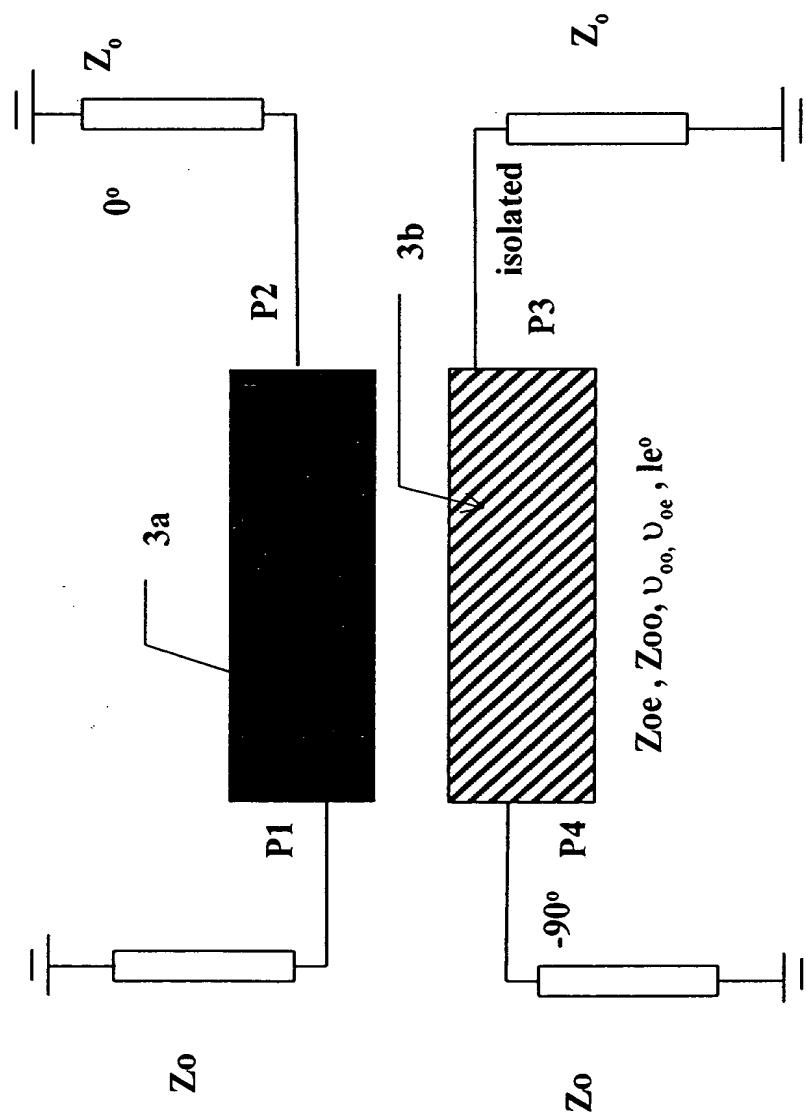
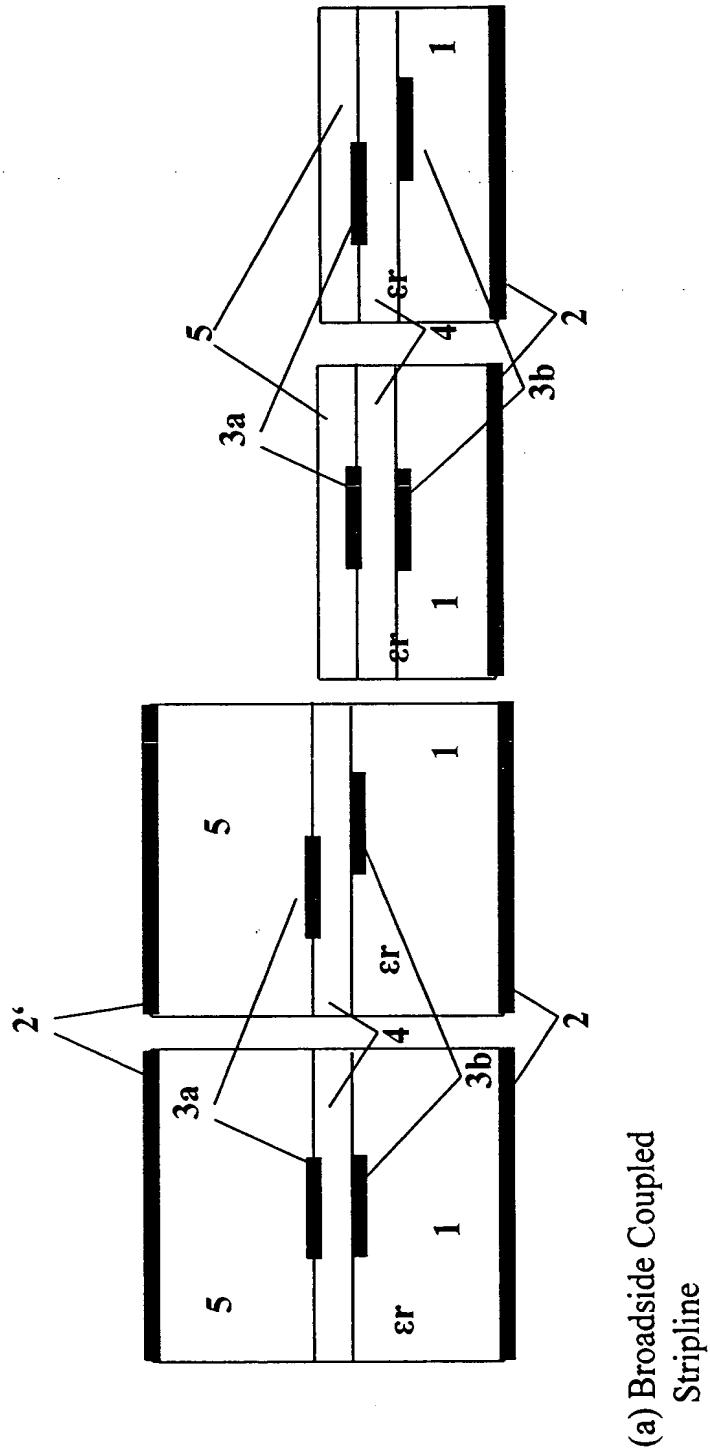


*Fig. 1*  
*(PRIOR ART)*

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**Fig. 2**  
(PRIOR ART)



(a) Broadside Coupled Stripline

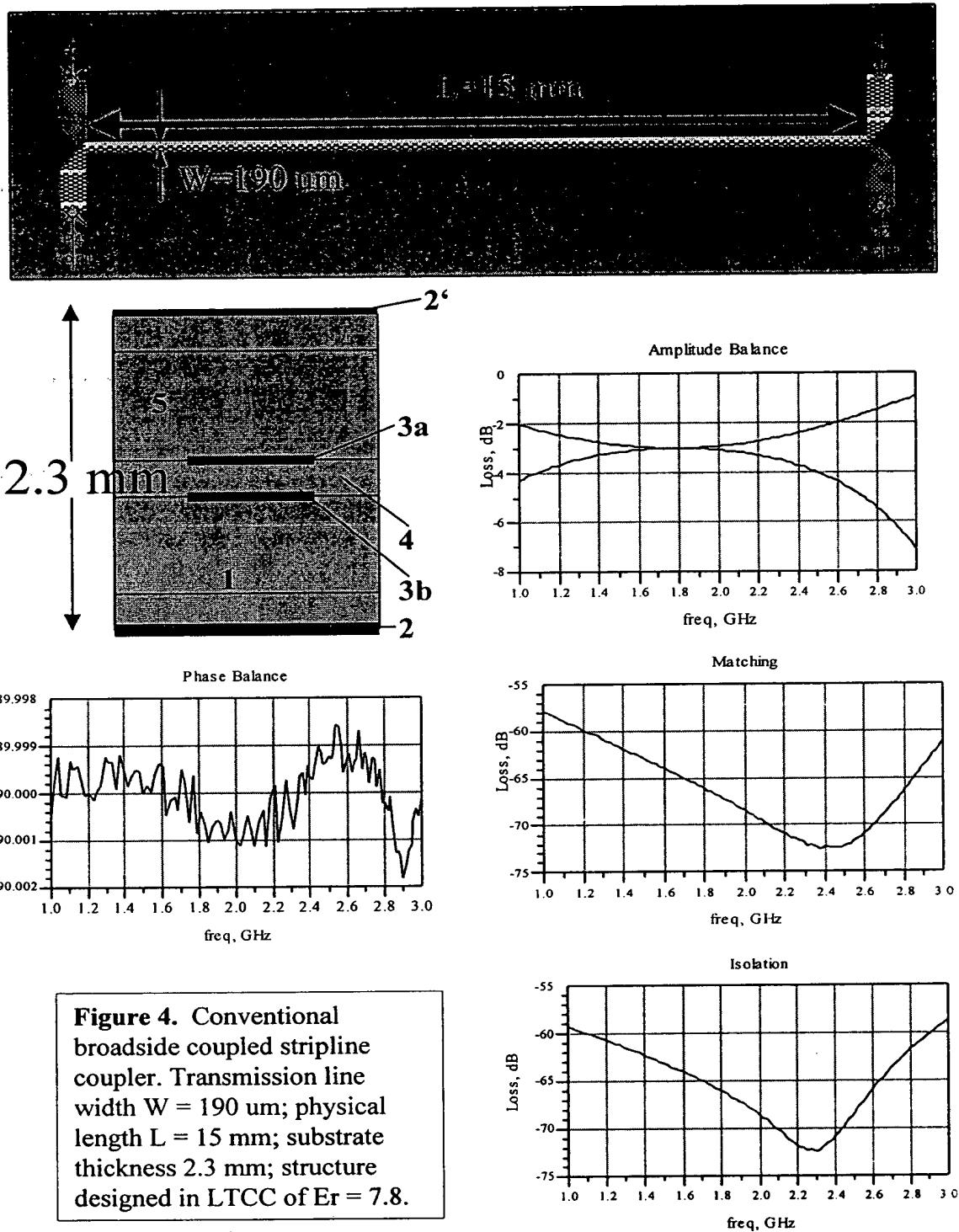
(b) Offset-Broadside Coupled Stripline

(c) Broadside Coupled Microstrip

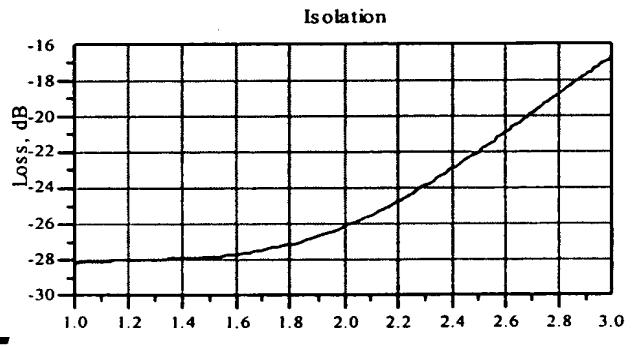
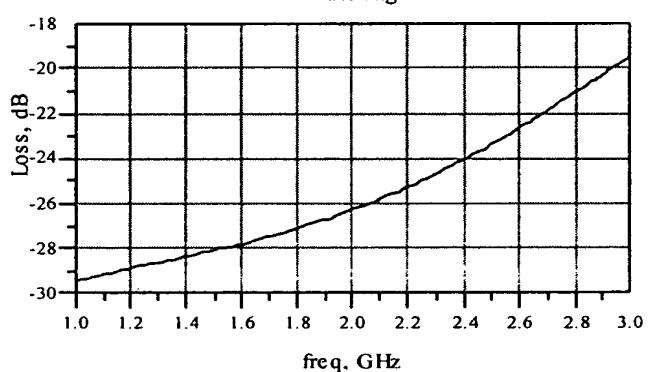
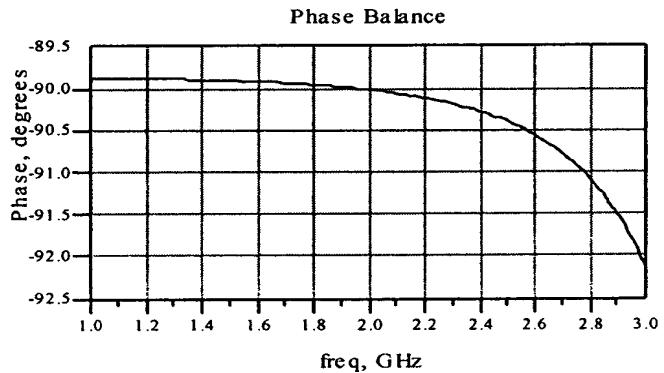
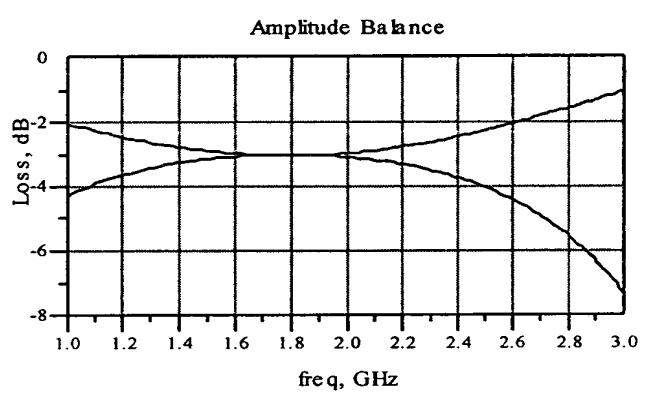
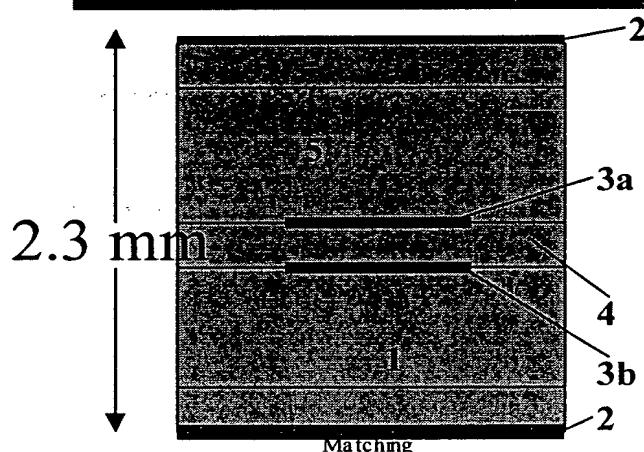
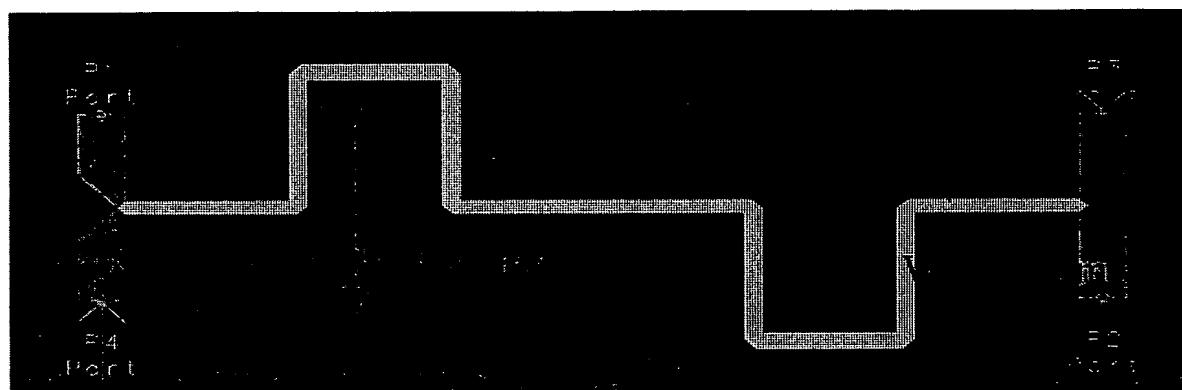
(d) Offset-Broadside Coupled Microstrip

Cross-section of four broadside coupled structures.

**Fig. 3**  
*(PRIOR ART)*



**Fig. 4**  
**(PRIOR ART)**



**Figure 5.** Meandered broadside coupled stripline coupler. Transmission line width  $W=190$   $\mu\text{m}$ ; physical length  $L=9.75$   $\text{mm}$ ; breadth  $B=3.49$   $\text{mm}$ ; substrate thickness  $2.3$   $\text{mm}$ ; structure designed in LTCC of  $\text{Er}=7.8$ .

**Fig. 5  
(PRIOR ART)**

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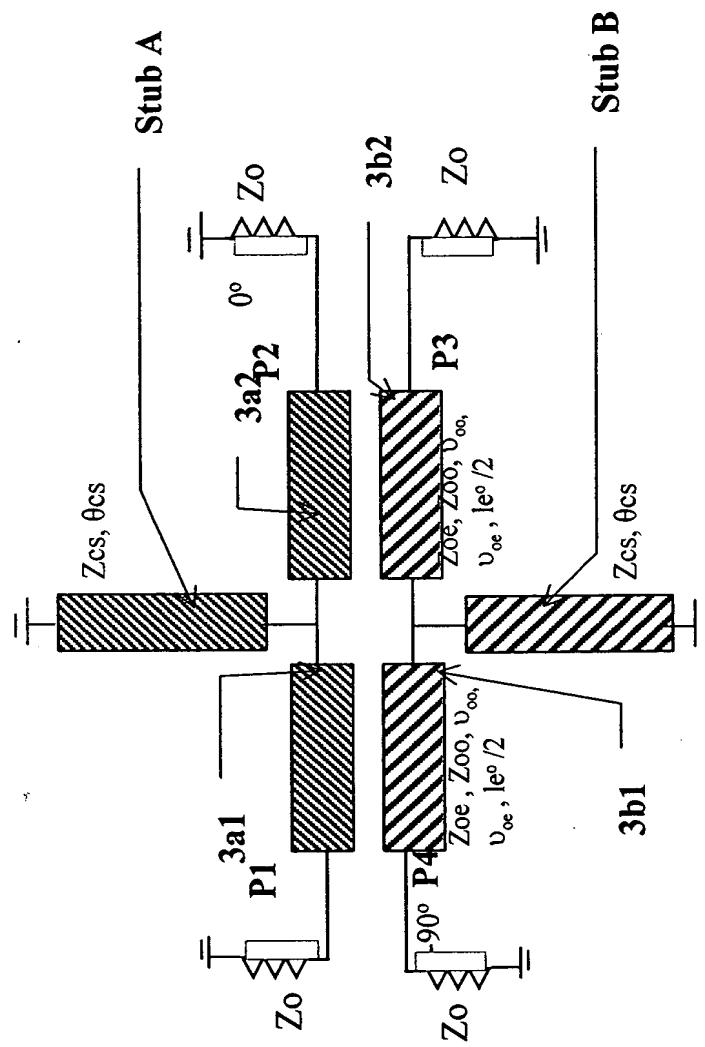
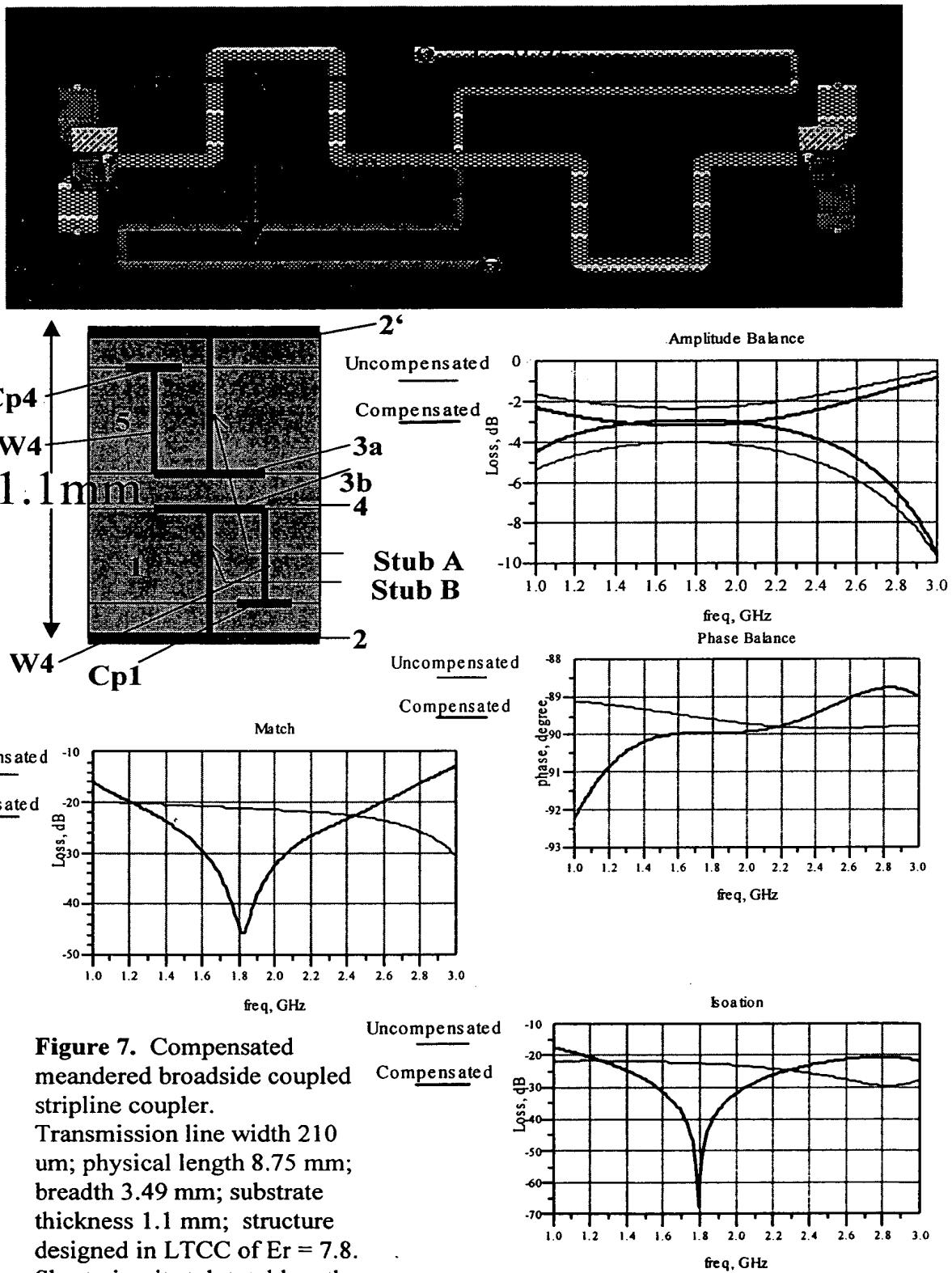


Fig. 6

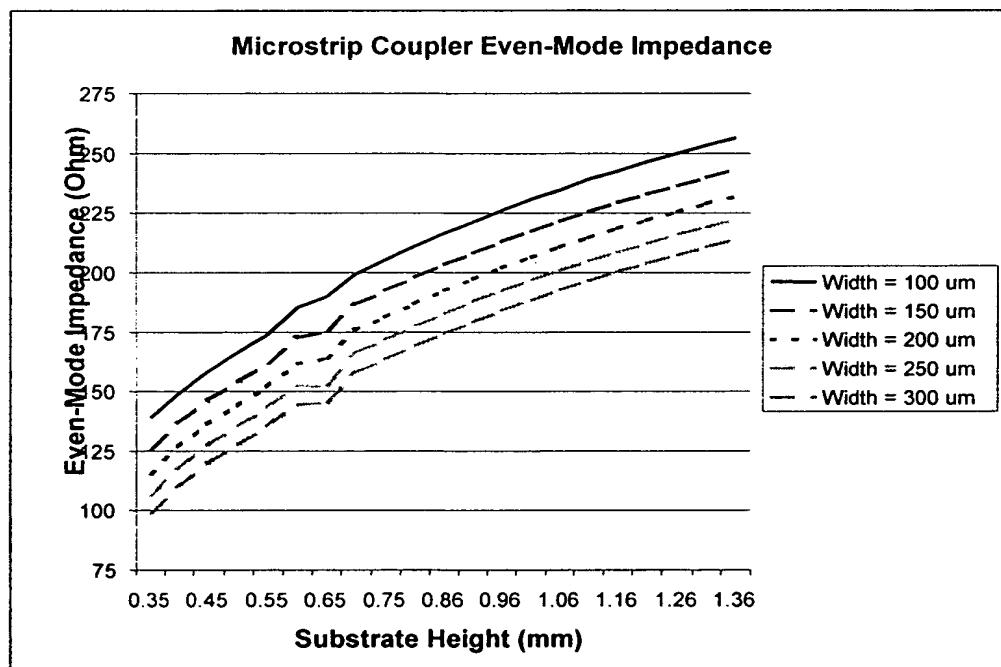
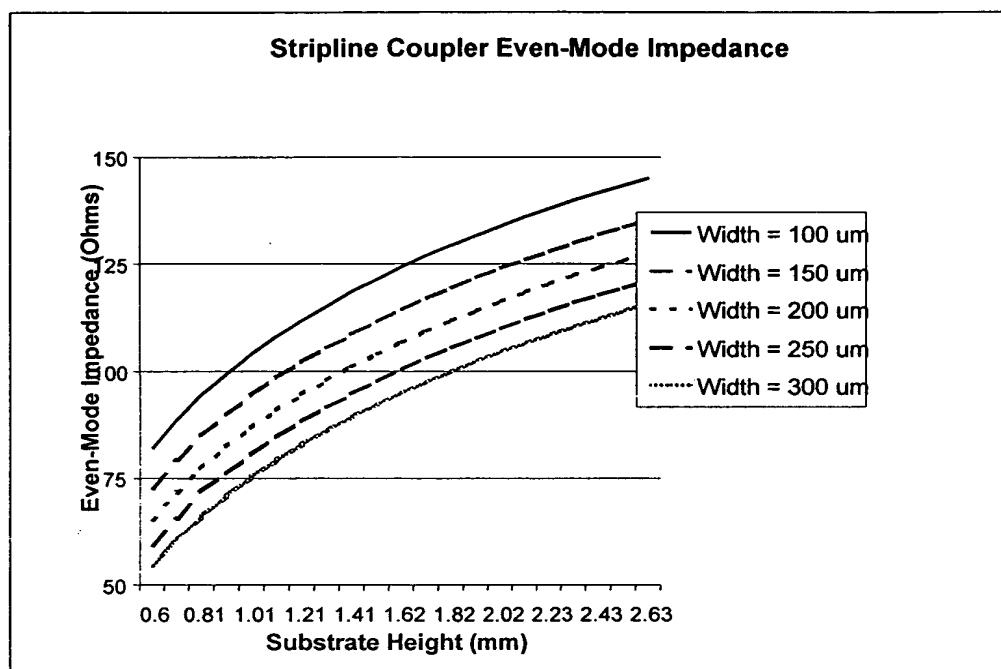


**Figure 7.** Compensated meandered broadside coupled stripline coupler.

Transmission line width 210 um; physical length 8.75 mm; breadth 3.49 mm; substrate thickness 1.1 mm; structure designed in LTCC of  $\epsilon_r = 7.8$ . Short-circuit stub total length 10 mm and width 125 um. Capacitors of 0.42 pF

**Fig. 7**

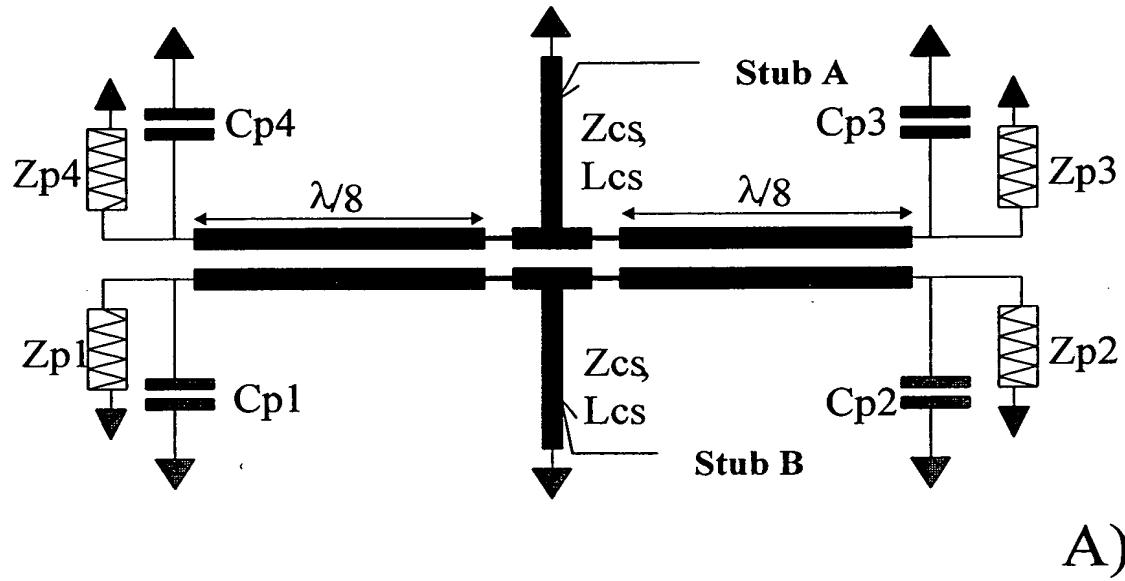
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*Fig. 8*

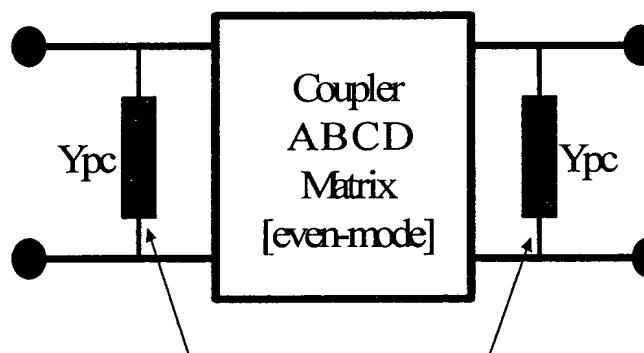
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▲ground



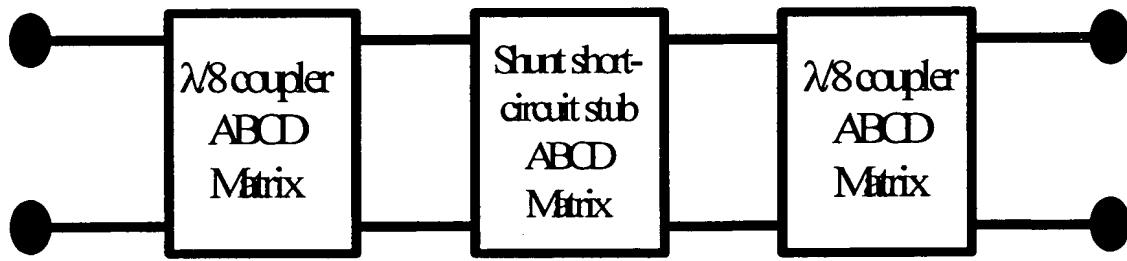
A)

C



B)

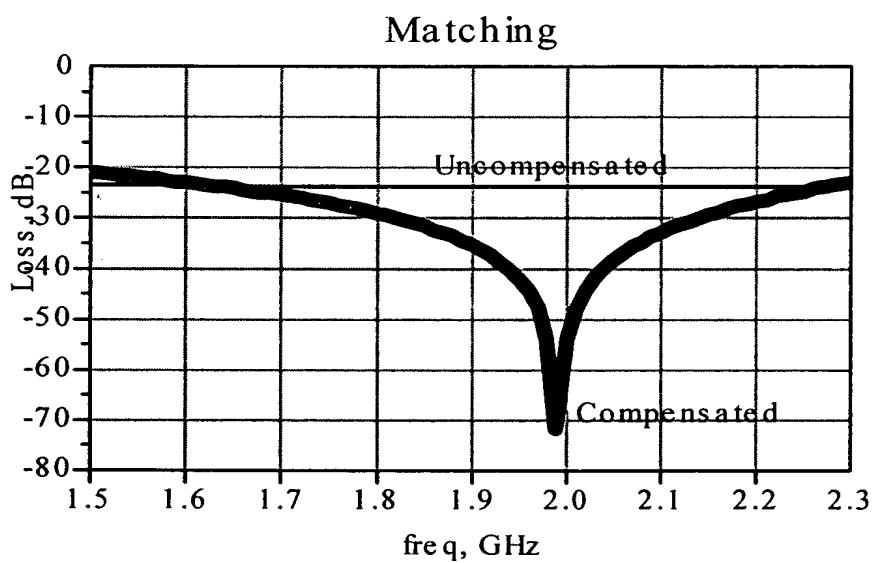
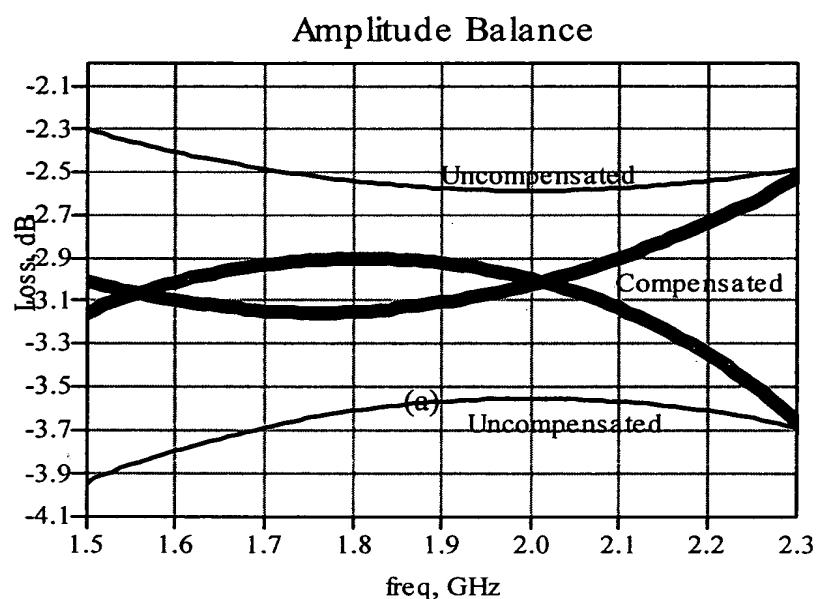
Representing capacitors to ground



C)

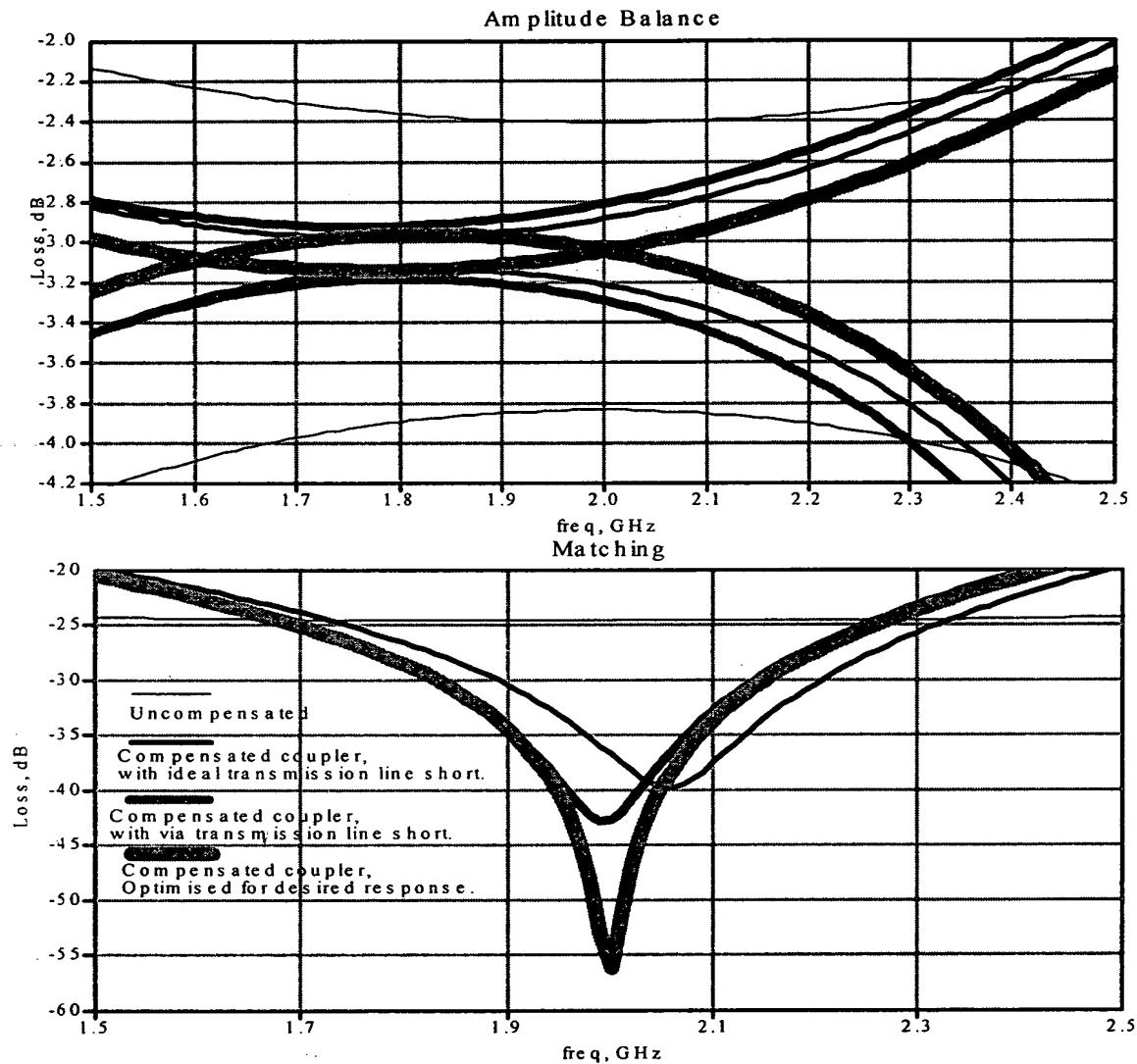
*Fig. 9*

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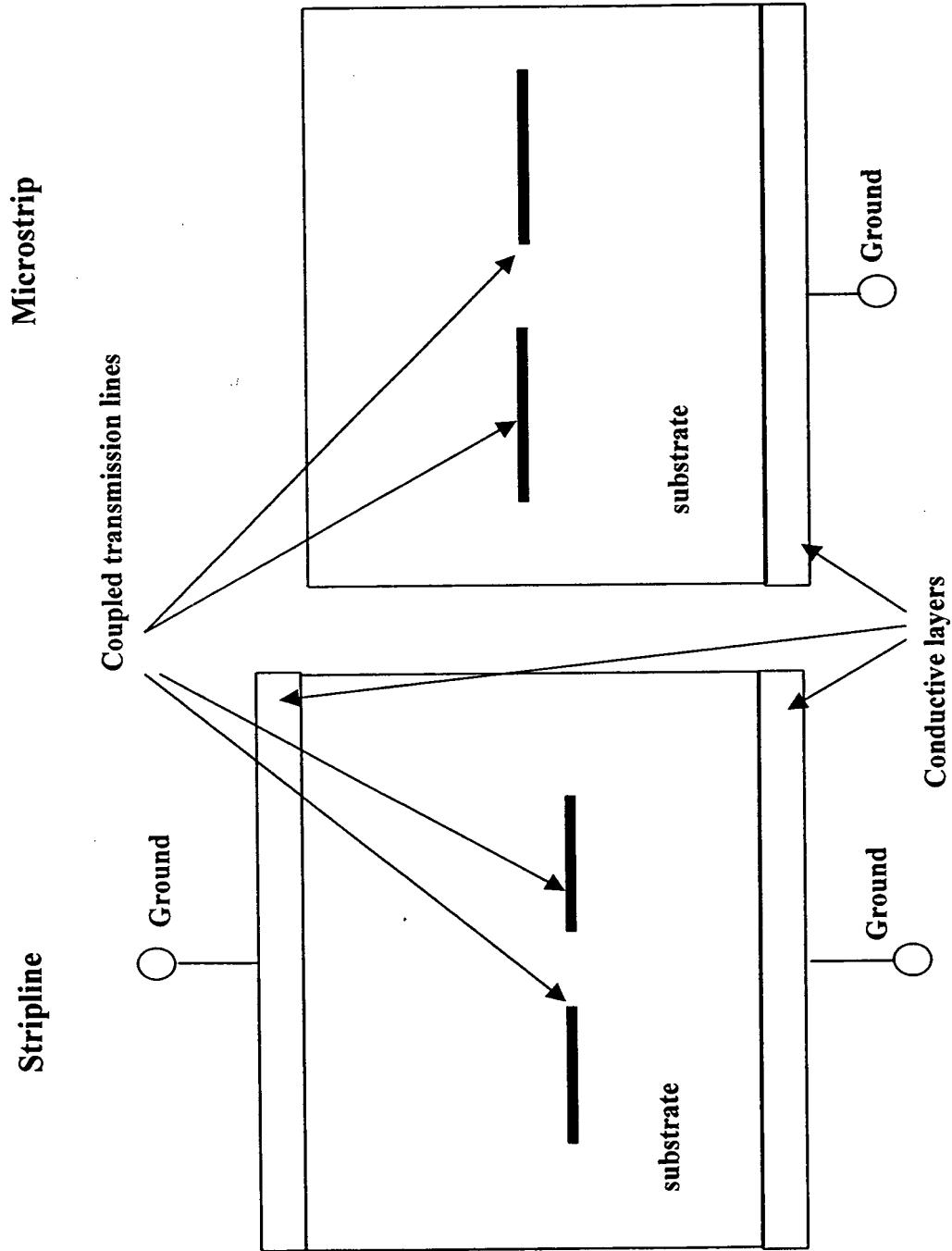
**Fig. 10**

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**Fig. 11**

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**Fig. 12**  
(PRIOR ART)